CONSERVATION Showcase

Conservation Innovation Grant Researches Soil Moisture Issues

Water is a key ingredient in New Mexico's economic development – and a Conservation Innovation Grant (CIG) experiment in the Burro Mountains is just one of the state's many NRCS supported projects to help watersheds yield more of this precious resource.

New Mexico's farmers and rancher's are a critical part of the solution as water becomes an evermore important factor in the health of the state's economy. New Mexico's farmers are at the vanguard of raising more and better crops with each drop they use – and its ranchers are at the forefront of creating better grasslands that are so essential to watersheds that yield clean and abundant water.

Now, a CIG project in southwestern New Mexico is beginning to show with scientific measures the conditions that are necessary to produce good soil moisture on rangeland. Data is being logged using soil moisture meters, rain gauges, and piezometers to accurately track available rainfall, its penetration rate, and volume in the soil profile. The potential movement of soil water downslope and relation to ground water that supports a healthy cottonwood bottom is being measured.

So how does soil moisture vary in different vegetative areas?

Early results at the Burro Mountain project are suggesting, like other studies, that much of the rainfall under the canopy in pinon-juniper areas is trapped in the ground litter, while in grassy sections of the experiment there is good penetration of such moisture into the soil. The study also shows that there is a higher demand for soil water under brush during the day compared to open grassy stands. The initial monitoring began in November 2007 and early

testing is still underway. After the initial monitoring period, brush thinning will occur and watershed moisture will be monitored for an additional ten years.

The expectation of the project is that the brush thinning will enhance grass recovery, improve soil moisture storage, and, eventually, increase groundwater in the drainage bottom. The overall goal using prescribed fire is to encourage the grass community.

The results of this project will help land managers understand the dynamics of water in New Mexico's watersheds, and assist them in making sound scientific judgments when advocating for conservation measures.

The Conservation Innovation Grant program enables New Mexico's farmers, ranchers, and other land managers to transfer known technology to more diverse and widespread conservation uses in the state. It opens doors to new opportunities.

For additional information about the Burro Mountain project contact Ellen Soles at (928)310-8955 or Mike Matush at (505)231-9827. For more about the Conservation Innovation Grant program call Seth Fiedler at (505)761-4416.

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Natural Resources Conservation Service